

**Original Article**

**WOUND CARE BEHAVIOR AMONG THE POPULATION-A SURVEY**

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**ABSTRACT**

**Objective:** Wound care behavior among the population.

**Methods:** An observational survey was conducted randomly among different college students and the general population of all age groups having different professions. Survey questionnaires were prepared on google form and responses were collected by online mode. The form was designed to know the self-medication behavior among the population.

**Results:** The total number of participants was 332. Out of which female participants were dominated 174(52.4%) and male participants were 158(47.59%). The survey revealed that 58.73% of participants took doctor's advice, 33.73% took self-medication, 4.22% took healthcare worker advice and, 3.31% took any other advice for treatment.

**Conclusion:** The survey revealed that although most of the population took doctor's advice for the treatment of wounds but yet there is a significant population (33.73%) who took self-medication for this treatment, which should be minimized by providing awareness among them. Most of the wounds were healed within 10 d. Most of the population took medication (analgesic, antibiotic) for treatment. The use of antibiotics by self-medication is a matter of concern nowadays. As a global threat is antibiotic resistance. These drugs should be prescribed under medical supervision.

**Keywords:** Wound, Medication, Self-medication

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**INTRODUCTION**

Wound/injury occurs when an object punctures the outermost layer of the skin [1]. Acute and chronic wounds are characterized according to the duration of the healing process [2]. Wound healing is not a simple process but healing occurs actively by replacing weakened and missing cellular structures and growth occurs through four different phases: Haemostasis phase, inflammatory phase, Proliferation phase, and lastly, the maturation phase [3]. Mostly these four phases occur in an ordered manner overlapping with each other [4, 5]. Restoration of the skin cut begins in the inflammatory stage. At last, they result in repair by the deposition of collagen and regeneration, which corresponds to the process of cell proliferation and posterior differentiation through pre-existing cells in the tissue and stem cells [6]. The lesion causing stimuli may be external or internal, as well as physical, chemical, electric, or thermal. The lesions can result in damage to a single organelle or whole-cell [7]. After wounding, the hemostasis phase begins immediately and vascular constriction and fibrin clot formation starts. Various pro-inflammatory cytokines and growth factors such as transforming growth factor (TGF)- $\beta$ , fibroblast growth factor (FGF), platelet-derived growth factor (PDGF) and epidermal growth factor (EGF) released from the clot and nearby wound tissue. All these factors help to control bleeding and then inflammatory cells migrate into the wound and promote the inflammatory phase, which is appertaining to the sequential infiltration of neutrophils, macrophages, and lymphocytes. The proliferative phase overlaps with the inflammatory phase, appertaining to epithelial proliferation and passage over the provisional matrix within the wound. In the reformatory dermis, fibroblasts and endothelial cells are the outstanding cell types present and help in capillary growth, collagen formation, and the formation of granulation tissue at the wound site. Fibroblasts produce collagen, glycosaminoglycans, and proteoglycans; these are the components of the extracellular matrix. Following robust proliferation and ECM synthesis, wound healing enters the final phase called the remodeling phase, which continues for years. In this phase, the lapse of many of the newly formed

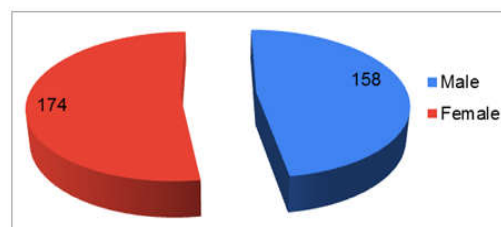
capillaries occurs, and wound vascular density returns to normal. Physical contraction of wound undergo throughout the entire healing process, contractile fibroblasts (myofibroblasts) are responsible for it [8-10]. Formation of collagen synthesis, epithelial cell migration, reepithelization and, endothelial cell migration contribute to new vascularization [11]. Growth factors and biologic substances are used for the treatment of chronic wounds [12].

**MATERIALS AND METHODS**

The survey was conducted to know the attitude of the persons regarding wound care. The survey was based on 20 questions to know about wound care among people. 363 numbers of responses were received between 14 to 72 y of ages. The analyses of 332 respondents were considered. The criterion of inclusion was that they have already suffered from wounds in their life. All other respondents were excluded because either they have not ever suffered from wounds or they have not filled the questionnaire properly. Out of 363, 28 persons showed no history of the wound and 3 persons did not fill the form properly.

**RESULTS AND DISCUSSION**

The total number of subjects was 332. Out of which, female participants were dominated 174(52.4%) and male participants were 158(47.59%). This is depicted in fig. 1.



**Fig. 1: Subjects according to their gender**

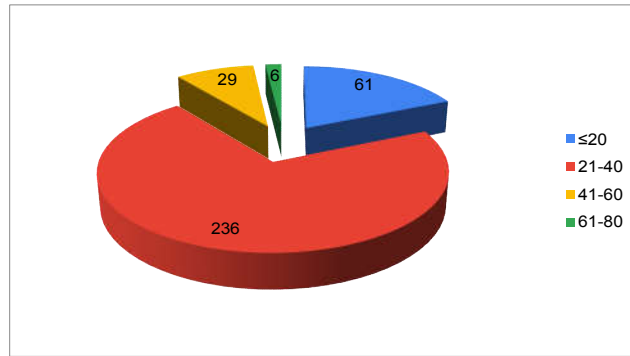


Fig. 2: Subjects according to their age

How has the wound been occurred to you?

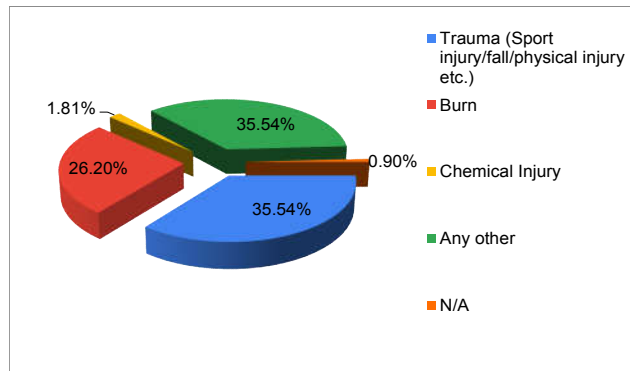


Fig. 3: Cause of wound

Have you any pain in the wound?

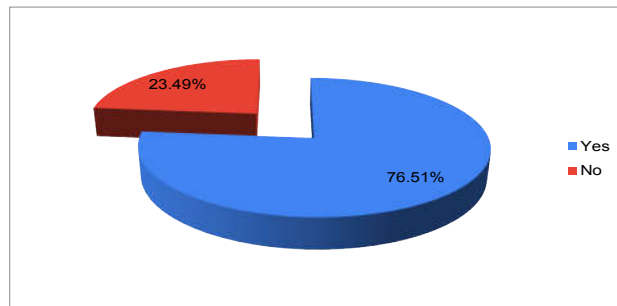


Fig. 4: Subjects in trouble

Has there been any swelling around the wound?

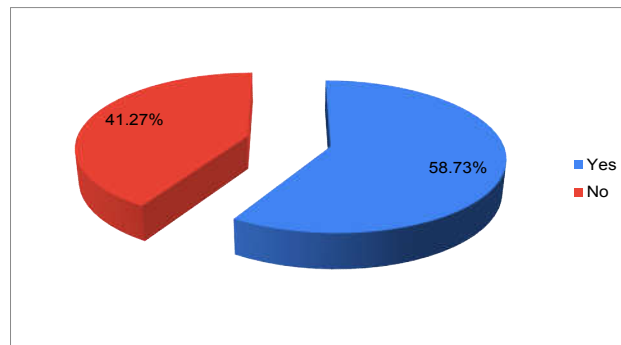


Fig. 5: Subjects with swelling

Has there been redness spreading away from the wound?

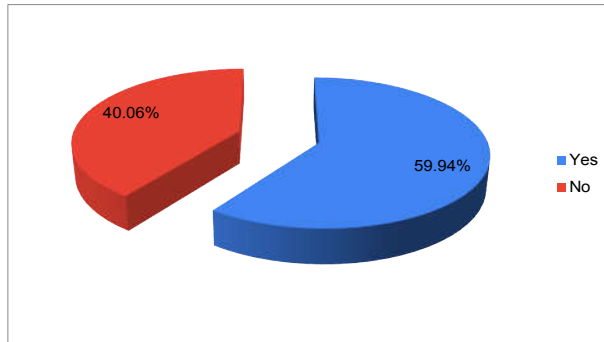


Fig. 6: Subjects with redness spreading away from the wound

Has the area around the wound been warmer than the surrounding skin?

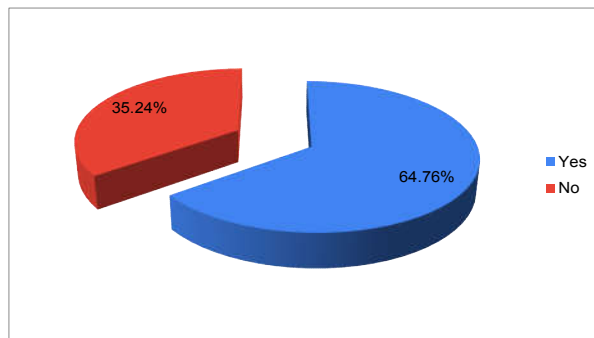


Fig. 7: Subjects having warmer wound area

Has the body temperature been risen during the wound?

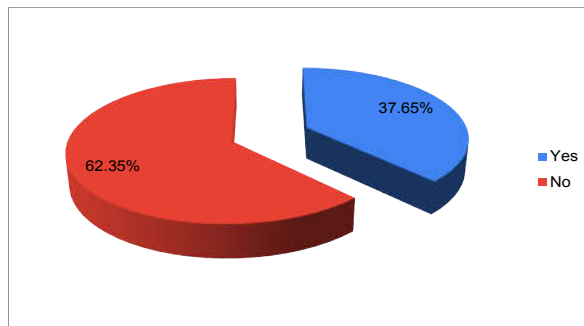


Fig. 8: Subjects with a rise in body temperature

Has there been any discharge from the wound?

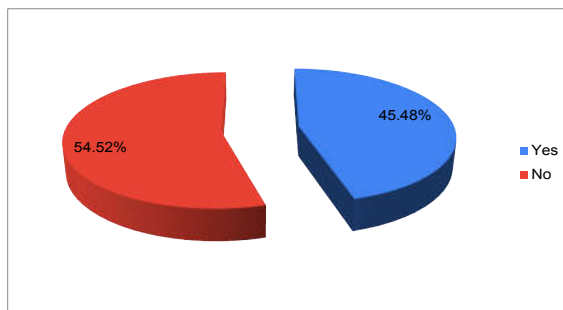


Fig. 9: Subjects having discharge from the wound

Has the wound been smelly?

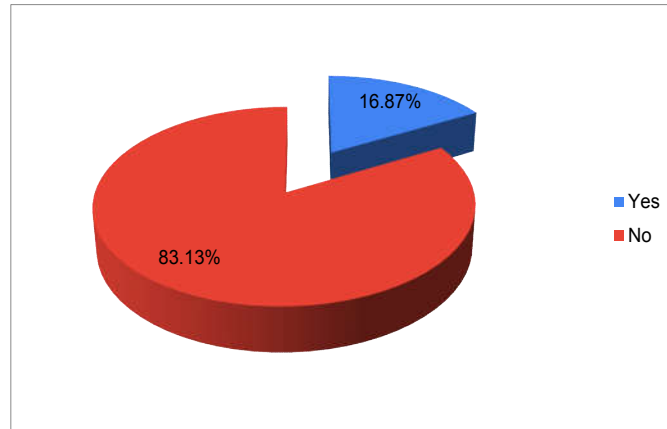


Fig. 10: Subjects with smelly wound

Have you treated wound or not?

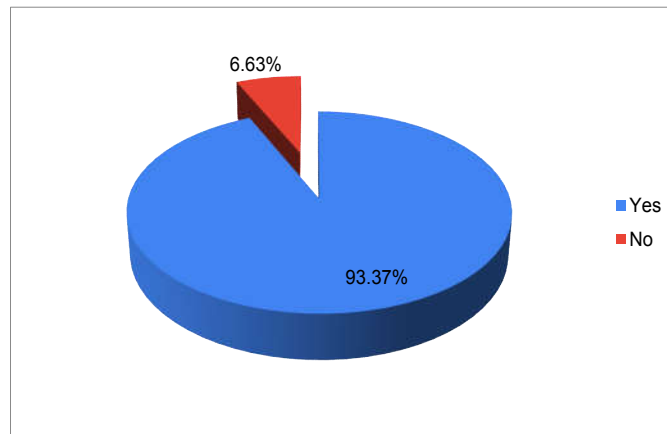


Fig. 11: Subjects with treatment

Which treatment have you taken to heal the wound?

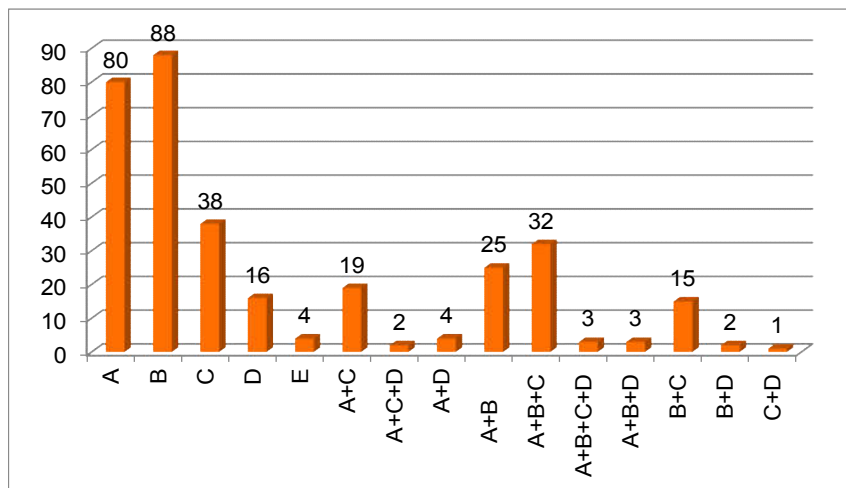


Fig. 12: Subjects with different treatment, In this bar chart, A-Dressing (dry/moist) B-Ointment (for external use) C-Any medication (antibiotics, painkiller etc.) D-Home remedies E-No treatment

How much time has been taken to heal the wound?

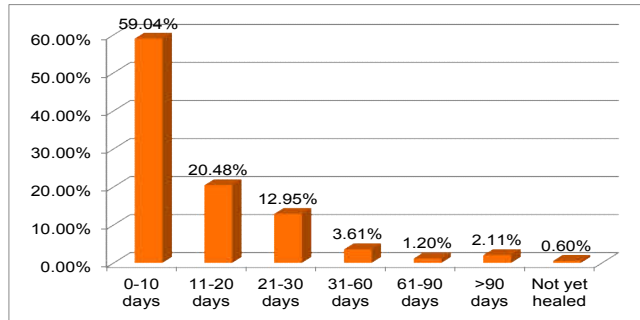


Fig. 13: Subjects takes different time period to cure

Who has prescribed you medication?

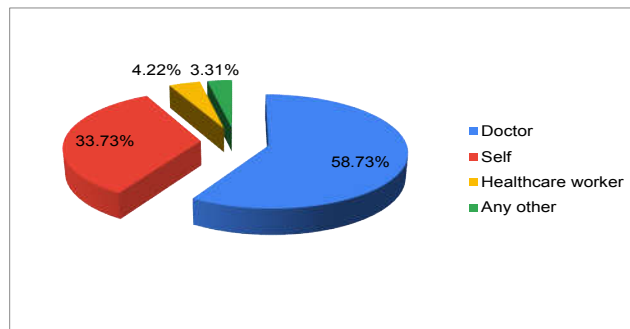


Fig. 14: Subjects with different prescribers

Has any adr (adverse drug reaction) occurred due to medication?

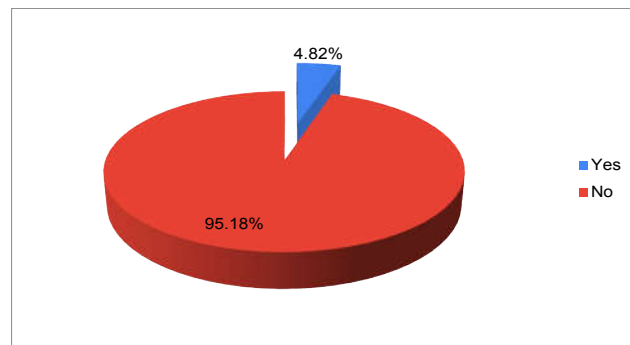


Fig. 15: Subjects with ADRs

How have you managed wound?

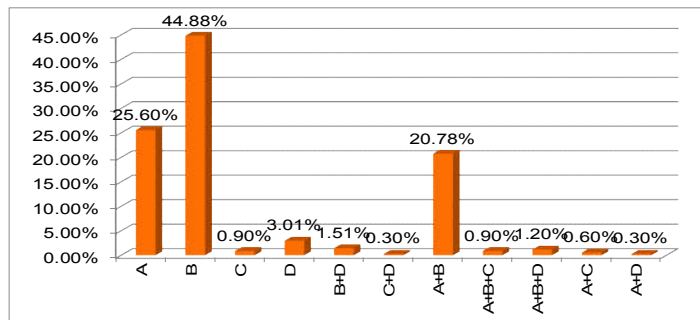


Fig. 16: Subjects with different management ways, in this bar chart, A-Rest, B-Cleaning, C-Heat, D-Cold

Have you faced complications from a cut or puncture wound?

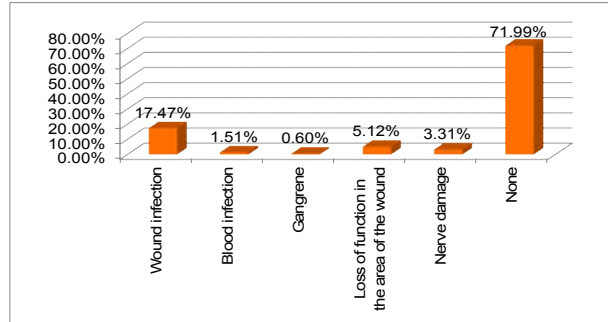


Fig. 17: Subjects with the different complication of wound

Has there been any family history of the wound?

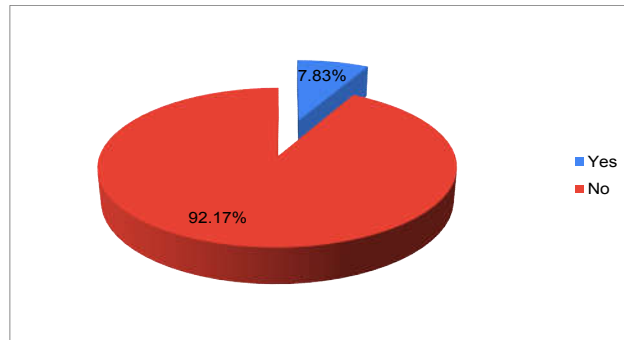


Fig. 18: Subjects with family history

Have you suffered from any other disease along with wound?

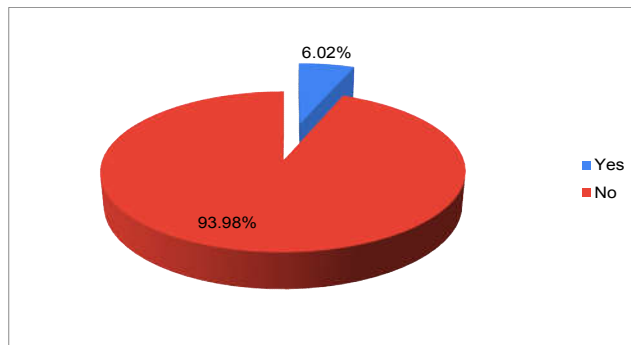


Fig. 19: Subjects with different diseases along with wound

Have you taken any other medication along with wound's medication?

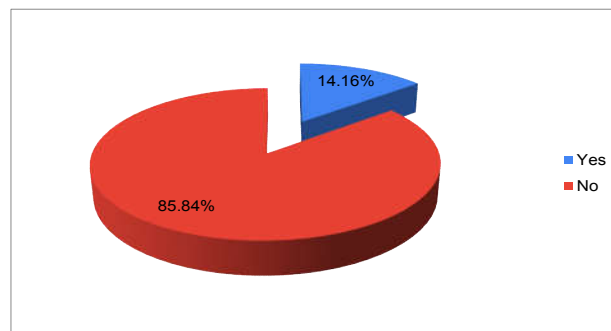


Fig. 20: Subjects on other medication along with wound medication

In the present study among students and other general population. It was evident that most of the population has to suffer from wounds in their daily life. In this survey, out of 332 responses, 174 were females and 158 were males. From 0-20 y 61 responses, 21-40 y 236 responses, 41-60 y 29 responses, and 61-80 y 6 responses were collected, and data collected in pie and bar charts. The wound affected most of the population was found in arms and legs. The main cause of wound was a trauma that covered 35.54% of the population, burn covers 26.20% of the population, chemical injury covers 1.81% population, and any other reason covered 35.54% of the population. In this study, 76.51% population suffered from pain, and 23.49% had no pain in there wound. 58.73% population had swelling in wound, and 41.27% had no swelling in the wound. 59.94% population had redness, and 40.06% population had no redness in the wound. 64.76% population had a warmer area around the wound, and 35.24% population denied the warmer area. 37.65% population had increased body temperature, and 62.35% population denied of increase in body temperature. 45.48% population had discharge in a wound, and 54.52% had no discharge. 16.87% population had smelled in a wound, and 83.13% had no smell in a wound. 93.37% population had taken treatment, and 6.63% had not taken treatment for the wound. For treatment 26.50% population took ointment, 24.09% population had depended upon dressing, 11.44% population took medication, 4.81% had depended upon home remedies, 1.20% population took no treatment, 5.72% took both dressing and medication, 7.5% took dressing and ointment both, 9.63% took dressing, ointment, and medication in combination. Wound healing time is different in a different population, 59.04% population healed in 0-10 d, 20.48% population healed in 11-20 d, 12.95% population healed in 21-30 d, 3.61% population healed in 31-60 d, 1.20% population healed in 61-90 d, 2.11% population healed in more than 90 d. 58.73% population took treatment on doctor's advice, 33.73% took self-medication, 4.22% took healthcare worker advice, 3.31% took any other advice for treatment. 4.82% population suffered from ADR's and 95.18% had no ADRs. 25.60% took rest for managing wound, 44.88% focused on cleanings, 0.90% took heat for wound healing, and 3.01% took cold treatment for healing, 20.78% focus on both rest and cleaning ness. 17.47% had wound infection, and 1.51% had a blood infection, 5.12% had a loss of function in the wound area, 71.99% had no complications. 7.83% population had a family history of a wound, 92.17% had no family history. 14.16% population is another medication also along with wound medicine, 85.84% had not on other medications, according to the survey report conducted in Australia. The sample scored 33.9/40 on the generalized self-efficacy scale and 68/100 on the Medical Outcomes Social Support Scale. The majority of the 89 participants who used a wound dressing used a product that targeted bacteria. Common reasons for self-treating were 'to be independent' (n = 58, 58.0%) and 'to do the treatment at a time that suited' (n = 55, 56.0%) [13]. In this study, The survey revealed that 58.73% of participants took doctor's advice, 33.73% took self-medication, 4.22% took healthcare worker advice and, 3.31% took any other advice for treatment. 24.09% of the population had depended upon dressing.

#### LIMITATIONS OF THE STUDY

Awareness could have been provided to the sample. This study could have been done in a large sample size.

#### CONCLUSION

The survey revealed that self-medication practice should be avoided by providing awareness among the people. Most of the wounds did not require treatment. Most of the people took medication (analgesic, antibiotic) for treatment. The use of antibiotics by self-medication is a matter of concern nowadays. As a global threat is an antibiotic resistance. These drugs should be prescribed under medical supervision.

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#### AUTHORS CONTRIBUTIONS

Shikha Sanoria, Zulfkar Latief Qadri made the idea and participated in its design and draft of the manuscript. Surya Prakash Gautam helped in the final editing of the manuscript of the research article. All authors read and approved the final draft of the research article.

#### CONFLICT OF INTERESTS

Conflict of interest declared none

#### REFERENCES

1. Robson MC, Steed DL, Franz MG. Wound healing: biological features and approaches to maximize healing trajectories. *Curr Prob Surg* 2001;38:77-89.
2. Selvaraj Dhivya, Viswanadha Vijaya Padma, Elango Santhini. Wound dressings—a review. *Biomedicine (Taipei)* 2015;5:22-8.
3. Peng Hui Wang, Ben Shian Huang, Huann Cheng Horng, Chang Ching Yeh, Yi-Jen Che. Wound healing. *J Chin Med Assoc* 2018;81:94-101.
4. Rivera AE, Spencer JM. Clinical aspects of full-thickness wound healing. *Clin Dermatol* 2007;25:39-48.
5. Strecker McGraw MK, Jones TR, Baer DG. Soft tissue wounds and principles of healing. *Emerg Med Clin North Am* 2007;25:1-22.
6. Eming SA, Krieg T, Davidson JM. Inflammation in wound repair: molecular and cellular mechanisms. *J Invest Dermatol* 2007;127:514-25.
7. Shaw TJ, Martin P. Wound repair at a glance. *J Cell Sci* 2009;122:3209-13.
8. Gosain A, DiPietro LA. Aging and wound healing. *World J Surg* 2004;28:321-6.
9. Broughton G, Janis JE, Attinger CE. The basic science of wound healing. *Plast Reconstr Surg* 2006;117 Suppl 7:12S-34S.
10. Campos AC, Groth AK, Branco AB. Assessment and nutritional aspects of wound healing. *Curr Opin Clin Nutr Metab Care* 2008;11:281-8.
11. Santram L, Gautam PV. Relevance and perspectives of experimental wound models in wound healing research. *Asian J Pharm Clin Res* 2017;10:57-62.
12. Geetha VS, V Gupta N, G Dv, K Pk. Research and development in wound management products: a brief review. *Asian J Pharm Clin Res* 2018;11:17-24.
13. Kapp S, Santamaria N. How and why patients self-treat chronic wounds. *Int Wound J* 2017;14:1269-75.